

Amendments to the Claims

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

Claims 1-22 (Cancelled).

23. (Currently Amended) A process for ~~producing~~
preparing a recombinant fibrinogen-fibrinogen-producing cell
which ~~highly~~ produces a high level of fibrinogen of 100 µg/ml or
more, comprising incorporating, into an animal cell, genes
encoding (i) an α chain (and/or variant of α chain) and/or an α E
variant thereof, (ii) a β chain, and (iii) a γ chain (and/or
variant of γ chain) and/or a γ' variant thereof which are
polypeptides constituting fibrinogen so that the number of genes
encoding a γ chain (and/or variant of γ chain) gene and/or a γ'
variant thereof is 1 to 1000-fold amount of a total 1 to 3
times the sum of the number of genes encoding an α chain (and/or
variant of α chain) gene and/or an α E variant thereof and the
number of genes encoding a β chain gene, wherein the animal cell
incorporated with the genes encoding the chains is capable of
producing a high level of fibrinogen of 100 µg/ml or more.

24. (Currently Amended) The process according to claim 23, wherein the number of genes encoding a γ chain gene is the same as ~~a total~~ the sum of the number of genes encoding an α chain gene and the number of genes encoding a β chain gene.

25. (Currently Amended) The process according to claim 23 or 24, wherein a vector having a gene encoding an α chain and a gene encoding a γ chain, and an expression vector having a gene encoding a β chain and a gene encoding a γ chain are ~~used by mixing them~~ incorporated into the animal cell either simultaneously or successively.

26. (Currently Amended) The process according to claim 25, wherein a vector having a gene encoding an α chain and a gene encoding a γ chain, and an expression vector having a gene encoding a β chain and a gene encoding a γ chain are ~~used by mixing them at an equal amount~~ incorporated in equal amounts.

27. (Currently Amended) The process according to claim 23, wherein expression vectors pCAGGD-GB and pCAGGDN5-GA ~~described in Fig. 1~~ are mixed at an equal amount in equal amounts to form a mixture of expression vectors, and ~~this~~ the mixture of expression vectors is incorporated into ~~an~~ the animal cell.

28. (Currently Amended) The process according to claim 23 or 24, wherein a vector having a gene encoding an α chain and a gene encoding a β chain, and an expression vector having a gene encoding a γ chain ~~are used by mixing them~~ incorporated into the animal cell either simultaneously or successively.

29. (Currently Amended) The process according to claim 23 or 24, wherein an expression vector having a gene encoding an α chain, an expression vector having a gene encoding a β chain and an expression vector having a gene encoding a γ chain ~~are used by mixing them~~ incorporated into the animal cell either simultaneously or successively.

30. (Currently Amended) The process according to claim 23, wherein an expression vector having a promoter selected from the group consisting of a SV40 early promoter, a SV40 late promoter, a cytomegalovirus promoter and a chicken β -actin promoter, and a marker gene for gene amplification selected from the group consisting of an aminoglycoside 3' phosphotransferase (neo) gene, a puromycin resistance gene, a dihydrofolate reductase (dhfr) gene and a glutamine synthetase (GS) gene is

used for incorporating the genes encoding the α -, β -, and γ -chains into the animal cell.

31. (Currently Amended) The process according to claim 30, wherein, an ~~in the~~ expression vector, ~~having the~~ promoter is a chicken β -actin promoter and the marker gene is a dihydrofolate reductase gene ~~is used~~.

32. (Currently Amended) The process according to claim 23, wherein, as a ~~the~~ gene encoding an α chain, one or both of a gene encoding ~~a~~ an α chain and a gene encoding an α E chain which is a variant ~~thereof~~ of the α chain are incorporated into the animal cell.

33. (Currently Amended) The process according to claim 23, wherein, as a ~~the~~ gene encoding a γ chain, one or both of a gene encoding a γ chain and a gene encoding a γ' chain which is a variant ~~thereof~~ of the γ chain are incorporated into the animal cell.

34. (Currently Amended) The process according to claim 23, wherein, as a ~~the~~ gene encoding a γ chain, one or both of a gene encoding a γ chain and a gene encoding a γ' chain which is a

variant ~~thereof~~ of the γ chain are incorporated into the animal cell and, as a gene encoding an α chain, one or both of a gene encoding an α chain and a gene encoding an α E chain which is a variant ~~thereof~~ of the α chain are incorporated into the animal cell.

35. (Previously Presented) The process according to claim 23, wherein the animal cell is selected from the group consisting of a Chinese hamster ovary cell (CHO cell), a mouse myeloma cell, a BHK cell, a 293 cell and a COS cell.

36. (Currently amended) The process according to claim ~~35~~ 23, wherein the animal cell is a Chinese hamster ovary cell (CHO cell) ~~is a~~ of strain DG44 ~~strain~~.

37. (Withdrawn-Currently Amended) ~~A~~ The process according to claim 23 ~~for producing a recombinant fibrinogen producing cell which highly produces fibrinogen, further~~ comprising incorporating, into ~~an~~ the animal cell, a baculovirus P35 gene at the same time ~~with~~ as, or at a different time from, the genes encoding polypeptides constituting fibrinogen, ~~in addition to the process for producing a recombinant fibrinogen highly producing cell as defined in claim 23.~~

38. (Withdrawn-Currently Amended) A recombinant fibrinogen ~~highly~~-producing cell obtained by ~~a~~ the process as defined in ~~of~~ claim 23.

39. (Withdrawn-Currently Amended) A process for producing ~~a large amount of~~ fibrinogen, comprising culturing ~~a~~ the recombinant animal cell obtained by the process as defined in ~~of~~ claim 37 ~~by a culturing method at condition~~ under conditions in which cell apoptosis is not induced to produce fibrinogen in an amount of 100 µg/ml or more.

40. (Withdrawn-Currently Amended) A process for producing ~~a large amount of~~ fibrinogen, comprising culturing the recombinant animal cell of claim 38 by any of a fed batch culturing method, a perfusion culturing method, and a culturing method using a nutrient enriched medium to produce fibrinogen in an amount of 100 µg/ml or more ~~in a process for producing a large amount of fibrinogen using a recombinant animal cell as defined in claim 38.~~

41. (Withdrawn-Currently Amended) A process for producing ~~a large amount of~~ fibrinogen, comprising ~~using~~ culturing the recombinant animal cell of claim 38 in a serum-free medium to produce fibrinogen in an amount of 100 µg/ml or more ~~in~~

~~a process for producing a large amount of fibrinogen using a
recombinant animal cell as defined in claim 38.~~

42. (Withdrawn-Currently Amended) Fibrinogen produced
~~by using a from the recombinant fibrinogen highly producing cell
as defined in of claim 38.~~

43. (Withdrawn-Currently Amended) ~~Fibrinogen-A~~
fibrinogen produced by ~~using a the process as defined in of any~~
one of claims 39 to 41.